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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,254	09/30/2003	Hitoshi Kosugi	241051US6YA	2850

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EXAMINER

HUSBAND, SARAH E

ART UNIT

PAPER NUMBER

1746

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/673,254

Applicant(s)

KOSUGI, HITOSHI

Examiner

Sarah E. Husband

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 7-27 is/are pending in the application.
- 4a) Of the above claim(s) 13-25 and 27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-12 and 26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's arguments, see Remarks, filed 11/14/2006, with respect to the 112 rejection have been fully considered and are persuasive. The 112 rejection of claims 1-12 and 26 has been withdrawn.

Applicant's arguments filed 11/14/2006 have been fully considered but they are not persuasive. Applicant's arguments regarding Katakabe in view of Oh are not persuasive. Applicant is arguing the intended use of the apparatus, specifically the type of fluid in the pipes. Apparatus claims are directed to structure, rather than the use of that structure. The structure shown by Katakabe would be perfectly capable of applying cleaning solution and also is described as doing so in the specification. As described in Katakabe and discussed in the previous office action, Katakabe discloses applying the cleaning fluid to both the front and back side of the wafer, suggesting a thorough cleaning. It would be obvious to use means to provide this thorough cleaning and therefore the use of the separately placed nozzles would be a convenient way to clean the wafer. And again, the valve controlling the fluid line is well known in the art as is shown by Oh in applying the fluid to the wafer. The addition of more valves to control more fluid lines would be well within the level of one of ordinary skill in the art.

Applicant's arguments regarding Katakabe in view of Riedel are not persuasive. Applicant argues that Riedel discloses a gas and Katakabe is using a liquid. However, Riedel describes using a "fluid", which is commonly understood as a liquid or gas and therefore

would have been obvious to use the structure shown by Riedel with Katakabe for the ease in controlling the fluid flow. Applicant is reminded that, “[A]pparatus claims cover what a device is, not what a device does.” *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990) (emphasis in original). The intended use of the apparatus, such as the choice of whether liquid or gas, would not hinder the operation of the apparatus.

Therefore, the rejection stands as follows.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 4, 7, 8 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katakabe (US Patent No. 6,745,784) in view of Oh (US Patent No. 6,751,824).

Katakabe discloses the substrate rinsing assembly having a first nozzle array including at least one nozzle positioned over a center of the substrate (Fig. 2, Item 24) and a second nozzle array having a plurality of nozzles positioned to direct fluid across the span of the substrate (Fig. 2, Item 26, col. 4, ll. 29-60, 63-64). Katakabe also discloses the substrate is rotated (Fig. 1), the rinse solution is deionized water (col. 8, ll. 38-50). Katakabe further discloses that the deionized water can be applied to the front and back of the wafer simultaneously to rinse the wafer. Therefore, although not specifically stated, in order to

fully rinse the wafer, one of ordinary skill in the art would immediately foresee using all of the nozzles to clean the wafer with deionized water. And also, when using the same fluid in all of the nozzles, it would also be obvious to one of ordinary skill in the art to use a common tubing means (cross-connect) for the benefit of reducing the number of parts.

Katakabe does not specifically disclose having valves in connection with the fluid supplies and nozzles. However, valves are well known in the art and Katakabe discloses stopping and controlling the various fluid applications (see entire document and col. 8, ll. 36-31). One of ordinary skill in the art would immediately foresee the necessity of valves to properly operate the rinsing assembly and Oh discloses this by showing valves in connection with the water supply and nozzle (Fig. 1). Oh also discloses a filter present on the water supply line. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to modify Katakabe with Oh for the benefit of controlling the flow of the solution to enable proper operation of the rinsing assembly.

Claims 1 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katakabe in view of Riedel (US Patent No. 6,817,369).

Katakabe discloses the apparatus described above in the previous 103(a) rejection (see previous citations). Katakabe does not specifically disclose valves associated with the various nozzles. Riedel discloses a cross-connect between two nozzles and valves associated with each of these nozzles (see Fig. 6, Items 421, 420, 422). At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Katakabe with Riedel for the benefit of accurately controlling the application of fluid to the wafer.

Claims 2 and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katakabe and Oh as applied to claims 1, 3-8 and 26 above, and further in view of Mandal (US Patent No. 6,770,424).

Katakabe and Oh disclose the substrate rinsing apparatus as shown above in the 103(a) rejection. They do not specifically disclose a controller. Mandal discloses a controller controlling the rotation of the wafer and the amount of fluid dispensed (Fig. 4, Item 46). At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Katakabe and Oh with Mandal for the benefit of being able to properly control the functions of the wafer rinsing apparatus.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art not referred to is Jodai (JP 11195635), which describes an apparatus with a center single nozzle and an outer group of nozzles.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action.

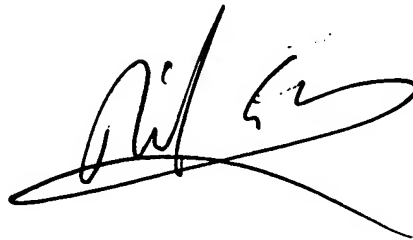
In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah E. Husband whose telephone number is (571) 272-8387. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael E. Barr can be reached on (571) 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SEH

A handwritten signature in black ink, appearing to read 'Michael E. Barr', with a large, sweeping flourish underneath.

MICHAEL BARR
SUPERVISORY PATENT EXAMINER